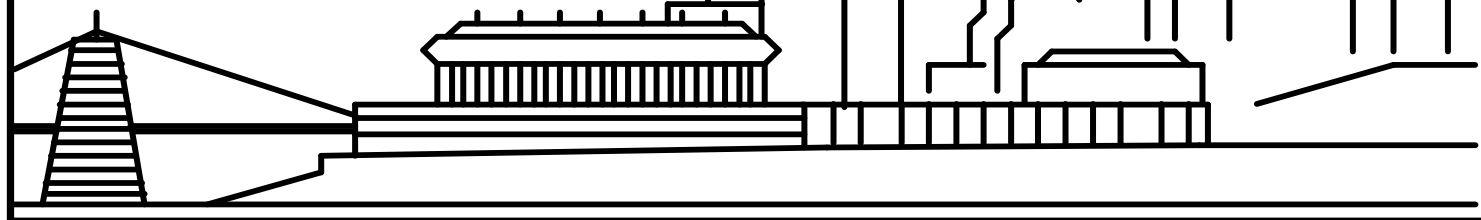




INSTITUTE OF
ELECTRICAL &
ELECTRONICS
ENGINEERS, INC.



JANUARY 1999

IEEE CINCINNATI SECTION NEWSLETTER

JANUARY MEETING

Power Quality Improvement in a Harmonic Environment

DATE : January 28, 1999

PLACE : Quality Inn Central (Norwood) - See directions below.

TIME :	5:30 PM (Social Time)	COST:	\$10.00 (Members)
	6:00 PM (Dinner)		\$5.00 (Students)
	7:00 PM (Program)		\$18.00 (Non-Members)
	8:30 PM (Approx.- Adjournment)		

RESERVATIONS ARE REQUIRED FOR DINNER ONLY !!!

THE CINCINNATI SECTION NOW HAS ITS OWN VOICE MAILBOX for making reservations for meetings or for providing comments or suggestions to **YOUR** Executive Committee.

Please call the Cincinnati Section Voice Mailbox at 629-9380, by **Noon, Tuesday, January 26, 1999** if you plan to attend. Please leave your **Name** and **IEEE Member Number**.

ABOUT THE MEETING: The presentation, by Mr. Greg Ferguson, will cover the effect of single-phase and three-phase, non-linear loads as sources of positive, negative, and third-order, zero sequence harmonic currents in a low and medium voltage distribution system. Various traditional methods for dealing with these harmonic currents will be outlined and their shortcomings identified. Alternate methods, which provide harmonic current reduction and power quality improvement, will also be presented. Results of the application of alternative devices in typical environments will be given.

ABOUT THE SPEAKER: Mr. Greg Ferguson is Founder and President of Power Quality International, Inc., Clearwater, Florida (1993) and Ferguson Engineering Services, Inc., Toronto, Ontario (1968). The FES Group of companies has completed major international power and industrial projects in Central and South America, Europe, Africa, Asia and Oceania. A number of these projects have included 80 MW power conversion systems that require multiple harmonic mitigation methods. Prior to the incorporation of FES, he had 9 years experience with Ontario Hydro in protection and control. Mr. Ferguson received his BS in Electrical Engineering from Ryerson Polytechnical University in Toronto in 1965.

MEETING LOCATION DIRECTIONS: From I-75 or I-71, get off at the Route 562 exit (Norwood Lateral). Then take the Montgomery Road exit off of 562.

Coming from I-71, at the end of the Montgomery Rd. Exit ramp, take a left onto Norwood Ave., follow to stop light and take a left onto Montgomery Rd. Hotel is approximately 2 blocks down on the right.

Coming from I-75, at the end of the Montgomery Rd. Exit ramp, take a left onto Wesley Ave. At next stop sign, turn left onto Norwood Ave. Follow to stop light and take a left onto Montgomery Rd. Hotel is approximately 2 blocks down on the right.

CHAIR'S MESSAGE

by Ron Harbaugh, Section Chair

A very Happy New Year to each of you. I wish for 1999 to be pleasant and prosperous for all of our members of the Cincinnati IEEE Section. With the holidays over, we start the short journey through 1999. This last year of 20th century will be a busy time for us technical types. Most of us are forced to deal with the millennium bug that is suppose to be built in our microprocessor-based equipment. No doubt there will be discussion at some of our technical meetings about Y2K.

As your newly elected Section chairman, I thank you for the privilege to serve you. We must thank Randy Holt, our previous Section chairman. Randy worked hard and did a lot to keep the Section active and the IEEE a quality program in Cincinnati. He is a tough act to follow. Randy has volunteered to be my advisor to help me through my term in office. Hopefully, we won't keep him too busy. He needs the rest after the fulfilling his tasks for our benefit during the last two years.

Many members of the former Executive committee have signed on again for another term, even though some will change committee responsibilities. Mark Strong is working in one of our member at large positions as the new person to the board. Bob Morrison continues in the tough job as newsletter editor/publisher and he will keep cranking out quality newsletters for us. Our thanks go to all of the individuals.

I will be continuing most of the plans and programs brought to us by Randy Holt. I share his concern that we need to keep our Section interesting and useful. We will be looking to you to offer ideas of what you would like for Section meetings, topics, or tours, and any services we can offer you, the members. Since I am writing this in December, we have not met in Executive Committee to discuss and develop goals and objectives for the Cincinnati section. I certainly will appreciate your contribution to the Section. Please contact me with your suggestions at home: 769-3781, work: 352-2941, or email:ron.harbaugh@cinpd.rcc.org, and I look forward to working with you.

A MESSAGE FROM YOUR PACE CHAIRMAN

by Bill Lohner, PACE Chairman

"A Network of Professional Activities for Engineers"

As we start the new year its a good time to look at we have done the previous year and see how we can improve these activities in the incoming year. For my part I feel good that our committee has made progress to implement some programs to encourage students to continue technical and scientific studies. What I don't feel good about is I don't think we are progressing fast enough. So a goal in 1999 is to expand our "What Is An Engineer?" program presentation to schools.

At the time I'm writing this article I've received no feedback from the presenters of this program of its acceptance in schools. So, another goal in 1999 is a quicker response from our program presenters. One of the things I have asked our presenters to do is to see if the schools want additional help and programs from the IEEE.

There is motivation for the Cincinnati Section to do well in our PACE programs for students. Jim Everly who is the Region 2 IEEE Precollege Education Committee representative has been elected to head the National IEEE Precollege Education Committee. Jim has worked hard in this area and has been a great help to our PACE committee. Our congratulations to Jim.

Jim would like the Cincinnati Section PACE Committee to make a presentation at the IEEE-USA annual PACE Conference and Workshop this year on our precollege education programs. This should give us additional motivation to do well in our programs. Our committee will investigate how we can do additional things to promote engineering and technical education. We can always use more people to participate.

Quoting from an article in the IEEE "Institute", December 1998 issue by Annette Cocispoti - "IEEE members and teachers want to change the course of precollege education to include technological literacy, but they can't do it alone. Over 100 engineers and teachers spent two days together forming an action plan to fulfill their vision of making every child technologically literate, but they need help from industry, schools of education and engineering and local support".

The article urged engineers to become a partner with a school, not a once a year visitor, and said industry should open plants and laboratories to students. I won't quote the whole article, but I suggest reading it in the December 1998 IEEE "Institute" publication. It comes with the Spectrum magazine.

If you want to participate, please call me. (385-7268).

Bill Lohner
PACE Chairman
Cincinnati Section IEEE

NEW MEMBERS

The following individuals are new IEEE members who are in our Section:

Dale E. Ankenman	Edward K. Foster	Shawn M. Morneau
Antone E. Baioni	David S. Grebe	Raghunath N. Rao
Raj. K. Bhatnagar	Anand Iyer	Andrew J. Tudor
Robert C. Bruzina	William L. Jett	Nicholas J. Ventre
Carl W. Dole	Pamela Ann Maher	David W. Yucker
Bryan D. Fallekamp	J. Dennis Morin	

The following individuals are existing IEEE members who have moved into the Cincinnati Section:

Braj P. Agrawal	Mahavir P. Jain	Jimi R. Sharp
Eric Derflinger	Krishna M. Margam	Gary D. Smoller
Santiago R. Escobar	Ronald J. Ruppensburg	Michael P. Weir

We wish to extend our welcome to all of our Section's new members!!!

The Personal Computer - Part 9 - The Reemergence of IBM

by Dick Reiman, Historian

IBM was well aware of the development of microprocessors and personal computers and had developed a desktop computer for scientific markets in 1975. It did not sell well. This was followed by a word processor, but it was a distant second to IBM's electric typewriter. When the personal computer became a business machine, however, William C. Lowe presented a radical plan to senior management for a personal computer which would use all outsourced components not currently in production, including software. A second break with tradition was to market the product using regular retail channels.

Surprisingly, IBM's top management agreed with Lowe's recommendation with a time frame of twelve months for a prototype. IBM's late entry into the personal computer market gave it the significant advantage of the use of sixteen bit second generation microprocessors, which would make this product significantly faster. The Intel 8088 chip was chosen, guaranteeing Intel's future prosperity.

IBM approached Gary Kildall of Data Research for an operating software for the new computer, but for some muddled reason Kindall was passed up and Microsoft entered the picture. The IBM entourage arrived at Bill Gates and Paul Allen's Microsoft headquarters in July 1980. Microsoft had thirty two people and a small rented office in downtown Seattle. Gates and Allen were so keen on winning the contact that they actually wore suits and ties! For IBM, Microsoft was a low risk, plus IBM's president John Opel, and Bill Gates' mother both served on the board of the United Way.

Rather than develop an operating system, Gates purchased one from Seattle Products for \$30,000, and this system called MS-DOS would be used on every IBM personal computer. Over the next decade, Microsoft and Gates would become billionaires, with Gates just 31 years old. Microsoft would obtain a royalty of between \$10 and \$50 on every copy sold. By the fall of 1980, the IBM prototype, the ACORN, was complete and production proceeded with Don Estridge in overall charge, and Lowe moving to higher management. The development team increased to one hundred, and Tandon's floppy disk plus Zenith's power supply were selected as components. Microsoft furnished BASIC for its operating system, a version of VisiCal spreadsheet, plus a word processor and several business programs.

Chicago-based Sears and ComputerLand were selected to retail the machine. Chiat Day advertising agency conducted an advertising campaign featuring a Charlie Chaplin look-alike making an appeal to both business and the home market. IBM was given a "human face". A fully equipped personal computer with 64 kilobytes of memory and a floppy disk would cost \$2,880.

The IBM computer became an immediate success, and the presence of the IBM logo legitimized the personal computer, with the machine becoming an industry standard.

Most of the popular software programs were converted to run on it, but the popularity encouraged other manufacturers to produce IBM's "clones" which used the same software including Compaq.

CINCINNATI SECTION ELECTION RESULTS

Ron Harbaugh was elected the Cincinnati Sections new Chairman, Jim Everly is the new Vice-Chairman, Laurie Tappel is the new Secretary, Orest Melnyk continues to serve as our Treasurer, and Mark Strong and Steve Olenick will be the Section's Members-at-Large. Congratulations to all.

The winner of the Voting / E-Mail drawing was Mr. William Averett. He will receive a check for \$100 from the Section. Congratulations, William.

IEEE NEWS

WHAT ENGINEERS CAN LEARN FROM VENTURE CAPITALISTS

WASHINGTON, Nov. 17, 1998 -- "History is strewn with sad tales of brilliant technologies that never made a cent; what you want to do is marry a terrific technology with a terrific business plan." So goes the argument in "Why Should a Venture Capitalist Give You a Dime?," the lead article in the Fall 1998 edition of TODAY'S ENGINEER magazine.

Have you ever wondered how engineers can make their everyday jobs more closely incorporate the very best aspects of an entrepreneurial venture, complete with the discipline, innovation and gusto normally associated with such projects? Authors Trudy E. Bell, Arthur P. Cimento and Jeffrey C. Sinclair attempt to answer this important question by presenting new ideas to help product development teams work together toward more productive and cohesive goals.

The main point of the argument is simple: An engineer on an interdisciplinary product development team -- no matter what the size of the company -- should approach the project as if he or she were developing a product for an entrepreneurial start-up about to apply for venture financing. And just how does seeking venture financing relate to the engineering profession anyway? Stated simply, venture capitalist firms want to know first and foremost how a startup company plans to make money off an idea. They are more interested in management teams and complete marketing plans than they are in specific technological concepts. As an engineer, you can greatly benefit by thinking like an entrepreneur seeking venture capital -- concentrating specifically on sound business issues, as opposed to just the technical features of your product.

The article goes on to describe the various players that can -- and should -- comprise a sound interdisciplinary product team. Most importantly, it presents a picture of how these players can interact in the most effective ways possible to realize the over-riding goal of the project, utilizing the best resources and talents of all the members simultaneously.

Pick up "Why Should A Venture Capitalist Give You a Dime?" in the Fall 1998 issue of TODAY'S ENGINEER, the magazine dedicated to illuminating the minds of engineers with new ideas and trends in the ever-changing world of work. The IEEE-USA publication aims at helping technical professionals transcend traditional boundaries, think strategically, and develop an overall business perspective. Be on the lookout for future articles and issues that will change the way you work and think.

To subscribe, call 1-800-678-4333 and ask for Product number PB-331. Annual subscriptions are US \$12.95. For more information on TODAY'S ENGINEER, call 202-785-0017 ext. 313; e-mail <ieeeusa-magazine@ieee.org>; or visit the magazine's Web site at <www.todaysengineer.org>.

1998 IEEE-USA PROFESSIONAL ACTIVITIES CONFERENCE EMPHASIZED CAREER DEVELOPMENT by Norman Miller, Division IX PACE Coordinator

The 23rd annual IEEE-USA Professional Activities Conference, held during Labor Day weekend at The Pointe Hilton Resort at Squaw Peak in Phoenix, was the largest one yet, with more 300 registered attendees, including 95 GOLD (Graduates of the Last Decade) participants. The conference format this year differed from previous years: the emphasis was on professional and career development rather than on training PACE leaders.

Following optional tutorials and workshops, the conference officially began with a reception and dinner on Friday, September 4. John Reinert, IEEE-USA President, spoke on the progress that IEEE-USA made this first year of its autonomous status within IEEE and its plans for the future. Following the dinner, separate meetings were held for each of the six U.S. Regions and one for the 37 Technical Societies on how to facilitate the promotion of professional association within their respective Regions and Societies.

Saturday morning started with an opening plenary session addressed by Paul Kostek, IEEE-USA President-Elect, who led off with a multi-media presentation on "Launch Pad 2000: What Will Our Future Hold?" The morning plenary was followed by workshop sessions: six parallel tracks, two of which were primarily devoted to the GOLD participants. The noon luncheon speaker was Joseph Tidwell, Division Education and Training Coordinator, Engineering, of the Boeing Company, who spoke on job definitions, a huge undertaking to define the multitude of disciplines required within the company. The presentation was very interesting and well received.

One of the last sessions on Saturday afternoon was a panel discussion on professional activities that can be done at technical conferences. If you are interested in such activities and PACE programs, contact the PACE representative in your Society or Section for more information.

The luncheon speaker on Sunday was the 1998 IEEE-USA Student Professional Paper Competition winner, Kelley Roark, of Texas Tech University. She presented a very interesting paper on the "Perception of Professionalism" and emphasized what qualities students should attain to mark themselves as professionals: ability to speak in public, proper usage of grammar, accountability, integrity, dress, and credibility. It was well received by the audience, and she presented the paper in a very professional manner.

The Sunday afternoon Plenary comprised Candidates Forums for IEEE President-Elect and IEEE-USA President-Elect. All of the candidates were eminently qualified. A reception, awards ceremony, and awards banquet concluded the day.

A second Division/Society meeting was held prior to the awards reception and ceremony. This meeting included reports from each Division Coordinator on Society activities. It was interesting to learn what the various Societies are doing to promote professionalism and provide information to the Society members on what IEEE is doing to promote professional development and services to the membership. The question always arises regarding whether technical societies, being multi-national, should be promoting professional activities that apply most directly to U.S. members. Interestingly enough we had conference participants from Regions 7 (Canada) and 8 (Europe); they were very interested in the publications and programs that IEEE-USA had to offer. It was the consensus that members outside of regions 1-6 are interested in learning what IEEE-USA is doing and what products it has to offer. It was emphasized to the Society Coordinators that there are plenty of professional programs that IEEE has to offer that do not involve governmental policy issues. These are things that can be promoted to all Society members.

The Conference ended on a very positive note. Once again it was good to see younger members participating in an IEEE Conference. The GOLD program is a valuable tool to get the younger professionals involved in IEEE; all the Societies and Sections should have a GOLD representative in attendance at the 1999 conference in Dallas.

IEEE ASSEMBLY ELECTS MEMBERS FOR 1999

The IEEE Assembly has elected members of the IEEE Board of Directors for 1999 during the meeting of the Assembly and the Board in New Brunswick, N.J.

Re-elected for their second one-year term were Arthur Winston, vice president, Educational Activities and Daniel Benigni, vice president, Regional Activities.

Newly elected IEEE Board members are Lloyd "Pete" Morley -- vice president, Publishing Activities; Donald Loughry, vice president, Standards; Maurice Papo, secretary; and David Conner, treasurer.

The officers will begin their term on 1 Jan 1999 led by 1999 IEEE President Kenneth Laker.

The IEEE Board of Directors has nominated four candidates for 1999 President-Elect. They are Raymond D. Findlay, professor of electrical and computer engineering, McMaster University, Hamilton, Ontario; Lloyd "Pete" Morley, professor of electrical engineering, University of Alabama; Edward A. Parrish, President, Worcester Polytechnic

Institute, Worcester, Mass.; and Joel B. Snyder, consulting engineer, Snyder Associates, Plainview, N.Y., and senior industry professor, Polytechnic University, Brooklyn, N.Y.

The Board also confirmed the tally of this year's election results from the teller committee.

FALL ISSUE OF TODAY'S ENGINEER STRESSES STRESS MANAGEMENT FOR PROFESSIONALS

WASHINGTON, November 24, 1998 – How you should handle stress on the job depends on your personality type, according to an article in the new issue of Today's Engineer, the award-winning magazine that focuses exclusively on non-traditional professional-development requirements for engineers of all disciplines.

In "Stress Management for High-Tech Professionals," author Allan H. Westreich writes that for each personality style, there are typical stressors, reactions and methods of stress management. Each personality style, according to Westreich, is based on preferences that fall within four categories: introversion-extroversion; sensing-intuition; thinking-feeling; and perceiving-judging. The article outlines the four steps for the general management of stress, and provides a guide for both determining personality type and managing stress based on temperament.

Other features in the Fall issue of Today's Engineer include "Why Should a Venture Capitalist Give You a Dime?" and "The Perils of Presentation Software." Readers will also find an interview with Motorola Chairman Gary Tooker, a special pull-out section on "Innovation in Engineering," and more.

Each quarterly issue includes articles, columns and editorial departments tied to the development of successful engineering attributes such as an understanding of engineering science fundamentals and the context in which engineering is practiced; an ability to think critically, creatively, independently and cooperatively; strong interpersonal and communications skills; and high ethical standards.

Today's Engineer recently received a 1998 Communicator Award of Distinction as a print-media project which "exceeds a high standard of excellence and (which) serves as a benchmark for the industry." The magazine is published by The Institute of Electrical and Electronics Engineers - USA, which promotes the career interests of U.S. members of the world's largest technical-professional society.

For more information on Today's Engineer, call 202-785-0017, ext. 313, send e-mail to ieeusa-magazine@ieee.org, or visit the magazine's web site at URL <http://www.todaysengineer.org>.

The IEEE Cincinnati Section Member Names and Phone Numbers

Cincinnati Section Voice Mail (call for meeting reservations)	629-9380
Ron Harbaugh - Chairman	352-6202, Ron.Harbaugh@CinPD.RCC.ORG (E-mail)
Jim Everly - Vice Chairman	556-4241, James.Everly@UC.Edu (E-mail)
Orest Melnyk - Treasurer	397-5419, o.melnyk@ieee.org (E-mail)
Laurie Tappel - Secretary	397-6383, ltappel@cinbell.com (E-mail)
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Mark Strong - Member-At-Large	397-1439, m.strong@ieee.org (E-mail)
Jack Beckmeyer - Arrangements Chairman	248-0901, 248-0226 (Fax), rfschapp@cinti.net (E-mail)
Bill Lohner - PACE Chairman	385-7268
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JANUARY 1999

IEEE CINCINNATI SECTION NEWSLETTER



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